

REMARKS

Claims 1-10 are pending in the current application. A declaration of inventor Richard R. Roesler under Rule 1.132 is submitted in connection with this response.

COMMON OWNERSHIP

This application was assigned by all inventors to assignee Bayer Polymers LLC on September 16, 2003 and the assignment recorded in the United States Patent and Trademark Office at Reel/Frame 014519/0798. Accordingly, all claims were commonly owned at the time the invention was made.

Rejections under 35 U.S.C. §112

Claims 1-10 are rejected under 35 U.S.C. §112, second paragraph, as indefinite for use of the word "may" in various places in the claims and for lack of a definition of the term "m". Claims 1 and 5 have been amended to indicate that R_1 and R_2 are the same or different. The word "may" also appears in Claims 1 and 5 to indicate that the substitutions on an aryl group are optional rather than required. This language was not amended. It is clear from the claim language that such substitutions are optional.

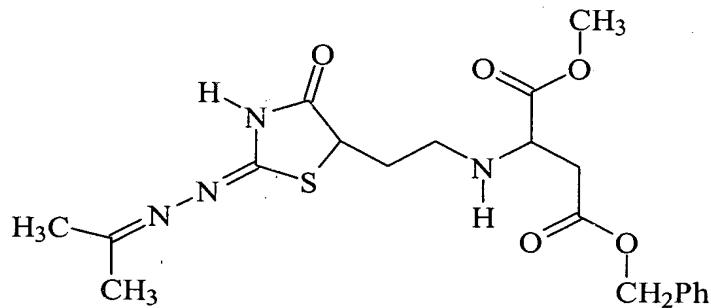
Claim 1 has been amended to indicate that m is an integer between 2 and 6. No new matter is added; this definition was included in original claim 5. The relationship between "m" and "a+b" is questioned in the Office Action, and is asserted to be unclear. Applicants respectfully submit that the relationship between the two is understood from the formula itself: if any unreacted amine groups remained, this would be reflected in the chemical structure shown for the aspartate, with an amine group or groups attached to "X" also appearing. As would be understood by one skilled in the art, "a+b" must equal "m".

The definition of R_1 and R_2 in clause (iv) in Claims 1 and 5 has been amended to clarify the intent of this language: "(iv) R_1 and R_2 together form a six-membered cycloalkyl group...". No new matter is added; one skilled in the art would recognize this was the intended language from reading the claim and from a review of the suitable ketone compounds listed in the specification at page 8, lines 1-9, including compounds such as cyclohexanone and cycloheptanone.

Applicants respectfully submit that Claims 1-10 are not indefinite and request withdrawal of this basis of rejection.

Rejections under 35 U.S.C. §102

Claims 1 and 3 are rejected under 35 U.S.C. §102(b) as being anticipated by WO 94/19335. The compound disclosed in Example 17 is said to fall within the claimed aspartate structure. Applicants respectfully traverse this rejection as it may pertain to amended Claim 1.



Compound from Example 117, WO 94/19335

As amended, Claim 1 of the present invention recites that "X represents an m-valent hydrocarbon group obtained by removing the primary amino group or groups from a di- or polyamine containing primary amino group....". No new matter is added; this language appears in Claim 2, which is directed to a preferred embodiment. Claims 1 and 3 now exclude the subject matter of WO 94/19335 and the compound shown in Example 17 therein. Applicants respectfully request withdrawal of this basis of rejection.

Rejections under 35 U.S.C. §103

Claims 1-10 stand rejected under 35 U.S.C. §103(a) as unpatentable over Squiller et al. (U.S. Patents 5,489,704 and 5,559,204) or Roesler (U.S. Patent 5,847,195), each in view of Cai (U.S. Patent 6,828,405) and Mormile et al. (U.S. Patent 5,214,086). Applicants respectfully traverse this rejection.

It is asserted in the Office Action that aldimines and ketimines were known to have similar utilities as curatives in polyisocyanate-based polymer systems, and that it would therefore be obvious to substitute ketimines for the aldimines taught in the prior art. Applicants respectfully submit that ketimines do not have a utility similar to aldimines, and that known differences between the two groups of compounds would have led one skilled in the art away from the use of ketimines as part of a curative in a polyisocyanate-based polymer system.

As set forth in the declaration of Richard Roesler, the stability of an aldimine is much different than that of a ketimine and so leads to differences in manufacture and use. As explained in the declaration, the reaction step in the manufacturing process for aldimines takes about twelve hours, whereas the process for producing ketimines takes twice as long, i.e., twenty-four hours. This difference in process time is substantial. One skilled in the art would not be motivated to substitute ketimines for aldimines, knowing that the manufacturing time would be doubled.

Additionally, as compared to aldimines, ketimines are known to hydrolyze and give off more volatile organic compounds as a result. Due to industry-wide efforts to control volatile organic compounds, one skilled in the art would not be motivated to substitute ketimines for aldimines in view of this problem.

Thus, despite the apparent similarities in structure between an aldimine and a ketimine, the chemistry each provides in a polyisocyanate-based system is quite different. As conceded in the Office Action, none of references cited teach or suggest the use of ketimines in the preparation of aspartate compounds which can be used to cure polyisocyanate polymers. Motivation outside the four corners of the references is also lacking. One skilled in the art would not be motivated to substitute ketimines for aldimines as suggested in the Office Action, because of these differences. Applicants respectfully submit that Claims 1-10 are not obvious in view of the references cited, alone or in combination, and request withdrawal of this basis of rejection.

CONCLUSION

Applicants respectfully submit that Claims 1-10 are in condition for allowance; such action is respectfully requested at an early date.

Respectfully submitted,

By



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